L4 ANSWER 1 OF 4 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
AN 1999251597 EMBASE
TI Xerostomia: A prevalent condition in the elderly.
AU Astor F.C.; Hanft K.L.; Ciocon J.O.
CS Dr. F.C. Astor, Department of Otolaryngology, Cleveland Clinic Florida, 3000 W. Cypress Creek Rd., Ft. Lauderdale, FL 33309, United States
SO Ear, Nose and Throat Journal, (1999) 78/7 (476-479).
Refs: 20
ISSN: 0145-5613 CODEN: ENTJDO
CY United States
DT Journal; Article
FS 011 Otorhinolaryngology
020 Gerontology and Geriatrics
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
AB Although xerostomia is associated with aging, studies have determined that salivary gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic **agents** and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish salivation, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
CT Medical Descriptors:
*xerostomia: DT, drug therapy
*xerostomia: ET, etiology
*xerostomia: RT, radiotherapy
*xerostomia: SI, side effect
*aging
dysgeusia
glossodynia
sialoadenitis
halitosis
denture
mastication
swallowing
dental caries: CO, complication
diabetes mellitus
nephritis
thyroid disease
human
male
female
case report
aged
article
Drug Descriptors:
*pilocarpine: DT, drug therapy

L4 ANSWER 4 OF 4 MEDLINE on STN
AN 1999357952 MEDLINE
DN 99357952 PubMed ID: 10429321
TI Xerostomia: a prevalent condition in the elderly.
AU Astor F C; Hanft K L; Ciocon J O
CS Department of Otolaryngology, Cleveland Clinic Florida, Ft. Lauderdale 33309, USA.
SO EAR, NOSE, AND THROAT JOURNAL, (1999 Jul) 78 (7) 476-9.
Journal code: 7701817. ISSN: 0145-5613.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199908
ED Entered STN: 19990910
Last Updated on STN: 19990910
Entered Medline: 19990826
AB Although xerostomia is associated with aging, studies have determined that salivary gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic **agents** and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish salivation, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
CT Check Tags: Case Report; **Female**; Human; Male
Aged
Aged, 80 and over
Aging: PH, physiology
Geriatric Assessment
Middle Age
Prevalence
*Xerostomia: DI, diagnosis
Xerostomia: EP, epidemiology

=>

***mucin: EC, endogenous compound**
cholinergic receptor blocking agent: AE, adverse drug reaction
psychotropic agent: AE, adverse drug reaction
antihistaminic agent: AE, adverse drug reaction
diuretic agent: AE, adverse drug reaction
nortriptyline: AE, adverse drug reaction
antidepressant agent: AE, adverse drug reaction
RN (pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5, 894-71-3

L4 ANSWER 2 OF 4 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
AN 93207515 EMBASE
DN 1993207515
TI Sialochemistry: A diagnostic tool?.
AU Aguirre A.; Testa-Weintraub L.A.; Banderas J.A.; Haraszthy G.G.; Reddy M.S.; Levine M.J.
CS Oral Biol./Dental Res. Inst. Dept., School of Dental Medicine, State University of New York,Buffalo, NY 14214, United States
SO Critical Reviews in Oral Biology and Medicine, (1993) 4/3-4 (343-350). ISSN: 1045-4411 CODEN: CROMEF
CY United States
DT Journal; Conference Article
FS 005 General Pathology and Pathological Anatomy
011 Otorhinolaryngology
029 Clinical Biochemistry
LA English
SL English
CT Medical Descriptors:
***saliva**
adult
aged
antifungal activity
antimicrobial activity
bacterial colonization
chromatography
conference paper
controlled study
dental caries: DI, diagnosis
enzyme linked immunosorbent assay
female
human
human experiment
immunoblotting
male
parotid gland
periodontal disease: DI, diagnosis
polyacrylamide gel electrophoresis
saliva analysis
salivary gland disease: DI, diagnosis
salivation
xerostomia: DI, diagnosis
Drug Descriptors:
*amylase: EC, endogenous compound
*histatin: EC, endogenous compound
*immunoglobulin a: EC, endogenous compound
*lactoferrin: EC, endogenous compound
*lysozyme: EC, endogenous compound
***mucin: EC, endogenous compound**
*proline: EC, endogenous compound
amino acid: EC, endogenous compound
cystatin: EC, endogenous compound
cysteine proteinase: EC, endogenous compound

glycoprotein: EC, endogenous compound
saliva protein: EC, endogenous compound
statherin: EC, endogenous compound

RN (amylase) 9000-90-2, 9000-92-4, 9001-19-8; (lactoferrin) 55599-62-7; (lysozyme) 9001-63-2; (proline) 147-85-3, 7005-20-1; (amino acid) 65072-01-7; (cystatin) 81989-95-9; (cysteine proteinase) 37353-41-6; (statherin) 113690-57-6

L4 ANSWER 3 OF 4 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI Salivary **mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215

AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.

CT Check Tags: **Female**; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion

Salivary Proteins: AN, analysis
*Salivary Proteins: PH, physiology
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (Salivary Proteins); 0 (human salivary **mucin** MG2)

L4 ANSWER 4 OF 4 MEDLINE on STN
AN 1999357952 MEDLINE
DN 99357952 PubMed ID: 10429321
TI Xerostomia: a prevalent condition in the elderly.
AU Astor F C; Hanft K L; Ciocon J O
CS Department of Otolaryngology, Cleveland Clinic Florida, Ft. Lauderdale 33309, USA.
SO EAR, NOSE, AND THROAT JOURNAL, (1999 Jul) 78 (7) 476-9.
Journal code: 7701817. ISSN: 0145-5613.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199908
ED Entered STN: 19990910
Last Updated on STN: 19990910
Entered Medline: 19990826
AB Although xerostomia is associated with aging, studies have determined that salivary gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic **agents** and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish salivation, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
CT Check Tags: Case Report; **Female**; Human; Male
Aged
Aged, 80 and over
Aging: PH, physiology
Geriatric Assessment
Middle Age
Prevalence
*Xerostomia: DI, diagnosis
Xerostomia: EP, epidemiology

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

22 ANSWER 3 OF 3 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and **age** of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

=>

AN 1999251597 EMBASE
TI Xerostomia: A prevalent condition in the elderly.
AU Astor F.C.; Hanft K.L.; Ciocon J.O.
CS Dr. F.C. Astor, Department of Otolaryngology, Cleveland Clinic Florida, 3000 W. Cypress Creek Rd., Ft. Lauderdale, FL 33309, United States
SO Ear, Nose and Throat Journal, (1999) 78/7 (476-479).
Refs: 20
ISSN: 0145-5613 CODEN: ENTJDO
CY United States
DT Journal; Article
FS 011 Otorhinolaryngology
020 Gerontology and Geriatrics
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
AB Although xerostomia is associated with aging, studies have determined that **salivary** gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic agents and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish **salivation**, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
CT Medical Descriptors:
*xerostomia: DT, drug therapy
*xerostomia: ET, etiology
*xerostomia: RT, radiotherapy
*xerostomia: SI, side effect
*aging
dysgeusia
glossodynia
sialoadenitis
halitosis
denture
mastication
swallowing
dental caries: CO, complication
diabetes mellitus
nephritis
thyroid disease
human
male
female
case report
aged
article
Drug Descriptors:
*pilocarpine: DT, drug therapy
***mucin: EC, endogenous compound**

AN 1999251597 EMBASE
TI Xerostomia: A prevalent condition in the elderly.
AU Astor F.C.; Hanft K.L.; Ciocon J.O.
CS Dr. F.C. Astor, Department of Otolaryngology, Cleveland Clinic Florida, 3000 W. Cypress Creek Rd., Ft. Lauderdale, FL 33309, United States
SO Ear, Nose and Throat Journal, (1999) 78/7 (476-479).
Refs: 20
ISSN: 0145-5613 CODEN: ENTJDO
CY United States
DT Journal; Article
FS 011 Otorhinolaryngology
020 Gerontology and Geriatrics
037 Drug Literature Index
038 Adverse Reactions Titles
LA English
SL English
AB Although xerostomia is associated with aging, studies have determined that **salivary** gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic agents and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish **salivation**, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
CT Medical Descriptors:
*xerostomia: DT, drug therapy
*xerostomia: ET, etiology
*xerostomia: RT, radiotherapy
*xerostomia: SI, side effect
*aging
dysgeusia
glossodynia
sialoadenitis
halitosis
denture
mastication
swallowing
dental caries: CO, complication
diabetes mellitus
nephritis
thyroid disease
human
male
female
case report
aged
article
Drug Descriptors:
*pilocarpine: DT, drug therapy
***mucin: EC, endogenous compound**

cholinergic receptor blocking agent: AE, adverse drug reaction
psychotropic agent: AE, adverse drug reaction
antihistaminic agent: AE, adverse drug reaction
diuretic agent: AE, adverse drug reaction
nortriptyline: AE, adverse drug reaction
antidepressant agent: AE, adverse drug reaction
RN (pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5, 894-71-3

cholinergic receptor blocking agent: AE, adverse drug reaction
psychotropic agent: AE, adverse drug reaction
antihistaminic agent: AE, adverse drug reaction
diuretic agent: AE, adverse drug reaction
nortriptyline: AE, adverse drug reaction
antidepressant agent: AE, adverse drug reaction
RN (pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5, 894-71-3

L27 ANSWER 2 OF 7 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

L27 ANSWER 2 OF 7 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

L27 ANSWER 2 OF 7 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

L27 ANSWER 2 OF 7 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI **Salivary mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human whole **saliva**, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole **saliva** flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole **saliva**, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
***Saliva: MI, microbiology**
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
***Salivary Proteins: PH, physiology**
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0 (human **salivary mucin** MG2)

27 ANSWER 5 OF 7 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
AN 93207515 EMBASE
DN 1993207515
TI Sialochemistry: A diagnostic tool?.
AU Aguirre A.; Testa-Weintraub L.A.; Banderas J.A.; Haraszthy G.G.; Reddy M.S.; Levine M.J.
CS Oral Biol./Dental Res. Inst. Dept., School of Dental Medicine, State University of New York,Buffalo, NY 14214, United States
SO Critical Reviews in Oral Biology and Medicine, (1993) 4/3-4 (343-350). ISSN: 1045-4411 CODEN: CROMEF
CY United States
DT Journal; Conference Article
FS 005 General Pathology and Pathological Anatomy
011 Otorhinolaryngology
029 Clinical Biochemistry
LA English
SL English
CT Medical Descriptors:
***saliva**
adult
aged
antifungal activity
antimicrobial activity
bacterial colonization
chromatography
conference paper
controlled study
dental caries: DI, diagnosis
enzyme linked immunosorbent assay
female
human
human experiment
immunoblotting
male
parotid gland
periodontal disease: DI, diagnosis
polyacrylamide gel electrophoresis
saliva analysis
salivary gland disease: DI, diagnosis
salivation
xerostomia: DI, diagnosis
Drug Descriptors:
*amylase: EC, endogenous compound
*histatin: EC, endogenous compound
*immunoglobulin a: EC, endogenous compound
*lactoferrin: EC, endogenous compound
*lysozyme: EC, endogenous compound
***mucin: EC, endogenous compound**
*proline: EC, endogenous compound
amino acid: EC, endogenous compound
cystatin: EC, endogenous compound
cysteine proteinase: EC, endogenous compound
glycoprotein: EC, endogenous compound
saliva protein: EC, endogenous compound
statherin: EC, endogenous compound
RN (amylase) 9000-90-2, 9000-92-4, 9001-19-8; (lactoferrin) 55599-62-7; (lysozyme) 9001-63-2; (proline) 147-85-3, 7005-20-1; (amino acid) 65072-01-7; (cystatin) 81989-95-9; (cysteine proteinase) 37353-41-6; (statherin) 113690-57-6

27 ANSWER 5 OF 7 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
AN 93207515 EMBASE
DN 1993207515
TI Sialochemistry: A diagnostic tool?.
AU Aguirre A.; Testa-Weintraub L.A.; Banderas J.A.; Haraszthy G.G.; Reddy M.S.; Levine M.J.
CS Oral Biol./Dental Res. Inst. Dept., School of Dental Medicine, State University of New York,Buffalo, NY 14214, United States
SO Critical Reviews in Oral Biology and Medicine, (1993) 4/3-4 (343-350). ISSN: 1045-4411 CODEN: CROMEF
CY United States
DT Journal; Conference Article
FS 005 General Pathology and Pathological Anatomy
011 Otorhinolaryngology
029 Clinical Biochemistry
LA English
SL English
CT Medical Descriptors:
***saliva**
adult
aged
antifungal activity
antimicrobial activity
bacterial colonization
chromatography
conference paper
controlled study
dental caries: DI, diagnosis
enzyme linked immunosorbent assay
female
human
human experiment
immunoblotting
male
parotid gland
periodontal disease: DI, diagnosis
polyacrylamide gel electrophoresis
saliva analysis
salivary gland disease: DI, diagnosis
salivation
xerostomia: DI, diagnosis
Drug Descriptors:
*amylase: EC, endogenous compound
*histatin: EC, endogenous compound
*immunoglobulin a: EC, endogenous compound
*lactoferrin: EC, endogenous compound
*lysozyme: EC, endogenous compound
***mucin: EC, endogenous compound**
*proline: EC, endogenous compound
amino acid: EC, endogenous compound
cystatin: EC, endogenous compound
cysteine proteinase: EC, endogenous compound
glycoprotein: EC, endogenous compound
saliva protein: EC, endogenous compound
statherin: EC, endogenous compound
RN (amylase) 9000-90-2, 9000-92-4, 9001-19-8; (lactoferrin) 55599-62-7; (lysozyme) 9001-63-2; (proline) 147-85-3, 7005-20-1; (amino acid) 65072-01-7; (cystatin) 81989-95-9; (cysteine proteinase) 37353-41-6; (statherin) 113690-57-6

27 ANSWER 4 OF 7 MEDLINE on STN
AN 93351722 MEDLINE
DN 93351722 PubMed ID: 8349009
TI Control of **mucin** molecular forms expression by **salivary** protease: differences with caries.
AU Slomiany B L; Piotrowski J; Czajkowski A; Slomiany A
CS Research Center, New Jersey Dental School, University of Medicine and Dentistry of New Jersey, Newark 07103-2400.
SO INTERNATIONAL JOURNAL OF BIOCHEMISTRY, (1993 May) 25 (5) 681-7.
Journal code: 0250365. ISSN: 0020-711X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199309
ED Entered STN: 19931001
Last Updated on STN: 20000303
Entered Medline: 19930916
AB 1. A protease activity capable of degradation of the high mol. wt **salivary** mucus glycoprotein to a low mol. wt glycoprotein form was identified in human submandibular gland secretion. 2. The protease exhibited optimum activity at pH 7.0-7.4, and gave on SDS-PAGE under reducing conditions two major protein bands of 48 and 53 kDa. The enzyme showed susceptibility to PMSF, alpha 1antitrypsin, and egg white and soybean inhibitors, a characteristic typical to serine proteases. 3. The activity of the protease towards the high mol. wt mucus glycoprotein was found to be 3.8-fold higher in submandibular gland secretion of caries-resistant individuals than that of caries-susceptible. Furthermore, the enzyme from both groups displayed greater activity against the mucus glycoprotein of caries-resistant subjects. 4. Since the low mol. wt **salivary** mucus glycoprotein form is more efficient in bacterial clearance than the high mol. wt **mucin**, the enhanced expression of this indigenous **salivary** protease activity towards **mucin** may be the determining factor in the resistance to caries.
CT Check Tags: Animal; Human; **Male**
***Dental Caries: EN, enzymology**
Disease Susceptibility
Electrophoresis, Polyacrylamide Gel
Glycoproteins: CH, chemistry
*Glycoproteins: ME, metabolism
Hydrogen-Ion Concentration
Molecular Weight
Mucins: CH, chemistry
***Mucins: ME, metabolism**
Phenylmethylsulfonyl Fluoride: PD, pharmacology
Rats
Rats, Sprague-Dawley
Saliva: CH, chemistry
***Saliva: EN, enzymology**
*Serine Endopeptidases: ME, metabolism
Submandibular Gland: CH, chemistry
Trypsin Inhibitors: PD, pharmacology
RN 329-98-6 (Phenylmethylsulfonyl Fluoride)
CN 0 (Glycoproteins); 0 (**Mucins**); 0 (Trypsin Inhibitors); EC 3.4.21 (Serine Endopeptidases)

27 ANSWER 4 OF 7 MEDLINE on STN
AN 93351722 MEDLINE
DN 93351722 PubMed ID: 8349009
TI Control of **mucin** molecular forms expression by **salivary** protease: differences with caries.
AU Slomiany B L; Piotrowski J; Czajkowski A; Slomiany A
CS Research Center, New Jersey Dental School, University of Medicine and Dentistry of New Jersey, Newark 07103-2400.
SO INTERNATIONAL JOURNAL OF BIOCHEMISTRY, (1993 May) 25 (5) 681-7. Journal code: 0250365. ISSN: 0020-711X.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199309
ED Entered STN: 19931001
Last Updated on STN: 20000303
Entered Medline: 19930916
AB 1. A protease activity capable of degradation of the high mol. wt **salivary** mucus glycoprotein to a low mol. wt glycoprotein form was identified in human submandibular gland secretion. 2. The protease exhibited optimum activity at pH 7.0-7.4, and gave on SDS-PAGE under reducing conditions two major protein bands of 48 and 53 kDa. The enzyme showed susceptibility to PMSF, alpha 1antitrypsin, and egg white and soybean inhibitors, a characteristic typical to serine proteases. 3. The activity of the protease towards the high mol. wt mucus glycoprotein was found to be 3.8-fold higher in submandibular gland secretion of caries-resistant individuals than that of caries-susceptible. Furthermore, the enzyme from both groups displayed greater activity against the mucus glycoprotein of caries-resistant subjects. 4. Since the low mol. wt **salivary** mucus glycoprotein form is more efficient in bacterial clearance than the high mol. wt **mucin**, the enhanced expression of this indigenous **salivary** protease activity towards **mucin** may be the determining factor in the resistance to caries.
CT Check Tags: Animal; Human; **Male**
***Dental Caries: EN, enzymology**
Disease Susceptibility
Electrophoresis, Polyacrylamide Gel
Glycoproteins: CH, chemistry
*Glycoproteins: ME, metabolism
Hydrogen-Ion Concentration
Molecular Weight
Mucins: CH, chemistry
***Mucins: ME, metabolism**
Phenylmethylsulfonyl Fluoride: PD, pharmacology
Rats
Rats, Sprague-Dawley
Saliva: CH, chemistry
***Saliva: EN, enzymology**
*Serine Endopeptidases: ME, metabolism
Submandibular Gland: CH, chemistry
Trypsin Inhibitors: PD, pharmacology
RN 329-98-6 (Phenylmethylsulfonyl Fluoride)
CN 0 (Glycoproteins); 0 (**Mucins**); 0 (Trypsin Inhibitors); EC 3.4.21 (Serine Endopeptidases)

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1966:96056 CAPLUS
DN 64:96056
OREF 64:18134a-c
TI Changes in protein and glycoprotein concentrations in human submaxillary saliva under various stimulatory conditions
AU Caldwell, R. C.; Pigman, W.
CS Univ. of Alabama Med. Center, Birmingham
SO Archives of Oral Biology (1966), 11(4), 437-49
CODEN: AOBIAR; ISSN: 0003-9969
DT Journal
LA English
CC 65 (Mammalian Biochemistry)
AB Concns. of protein and protein-bound carbohydrates in human submaxillary saliva depended on the salivary flow rate and not on the specific type of gustatory stimulus. **"Unstimulated" saliva** had the highest concn. of protein-bound carbohydrates. Low flow rates were assocd. with low concn. of protein and protein-bound carbohydrates; as the flow rate increased, there was an increase in concn. of these substances. Protein concn. averaged 122 mg. %; however, the change in concn. from lowest to highest value recorded represented an increase of 1600%. Concn. of protein-bound carbohydrates varied as much as 450% in the case of galactose. Av. concns. for protein-bound carbohydrates were galactose 395, hexosamine 290, **sialic acid** 151, and fucose 160 .mu.M. Secretors of blood group substances had concn. of protein-bound carbohydrates higher than nonsecretors, except for **sialic acid** concn. which was similar for the 2 groups. The **sialic acid**/fucose ratio for secretors was 0.64 and did not vary with flow rate. This ratio for nonsecretors was 1.40 and rose with increasing flow rate.
IT Saliva
(glycoproteins and proteins in, salivary flow in relation to)
IT Glycoproteins
(in saliva, flow in relation to)
IT Proteins
(of saliva, flow in relation to)

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1966:96056 CAPLUS
DN 64:96056
OREF 64:18134a-c
TI Changes in protein and glycoprotein concentrations in human submaxillary saliva under various stimulatory conditions
AU Caldwell, R. C.; Pigman, W.
CS Univ. of Alabama Med. Center, Birmingham
SO Archives of Oral Biology (1966), 11(4), 437-49
CODEN: AOBIAR; ISSN: 0003-9969
DT Journal
LA English
CC 65 (Mammalian Biochemistry)
AB Concns. of protein and protein-bound carbohydrates in human submaxillary saliva depended on the salivary flow rate and not on the specific type of gustatory stimulus. **"Unstimulated" saliva** had the highest concn. of protein-bound carbohydrates. Low flow rates were assocd. with low concn. of protein and protein-bound carbohydrates; as the flow rate increased, there was an increase in concn. of these substances. Protein concn. averaged 122 mg. %; however, the change in concn. from lowest to highest value recorded represented an increase of 1600%. Concn. of protein-bound carbohydrates varied as much as 450% in the case of galactose. Av. concns. for protein-bound carbohydrates were galactose 395, hexosamine 290, **sialic acid** 151, and fucose 160 .mu.M. Secretors of blood group substances had concn. of protein-bound carbohydrates higher than nonsecretors, except for **sialic acid** concn. which was similar for the 2 groups. The **sialic acid**/fucose ratio for secretors was 0.64 and did not vary with flow rate. This ratio for nonsecretors was 1.40 and rose with increasing flow rate.
IT Saliva
(glycoproteins and proteins in, salivary flow in relation to)
IT Glycoproteins
(in saliva, flow in relation to)
IT Proteins
(of saliva, flow in relation to)

L4 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 1
AN 2001:150662 BIOSIS
DN PREV200100150662
TI Evaluation of salivary **sialic acid** level and Cu-Zn superoxide dismutase activity in type 1 diabetes mellitus.
AU Belce, Ahmet; Uslu, Ezel; Kucur, Mine; Umut, Meltem; Ipbuker, Ali; Seymen, H. Oktay (1)
CS (1) Department of Physiology, Barbaros Mah., Sedef Sok., Onur Sitesi, 9/23 Uskudar, Istanbul, 81150: seymeno@yahoo.com Turkey
SO Tohoku Journal of Experimental Medicine, (November, 2000) Vol. 192, No. 3, pp. 219-225. print.
ISSN: 0040-8727.
DT Article
LA English
SL English
AB In this study, our aim was to determine whether or not type 1 diabetes mellitus affects salivary **sialic acid** level and SOD activity. For this purpose, **unstimulated saliva** specimen was collected. Saliva **sialic acid** level and SOD activity were measured by the methods of Warren and Sun, respectively. We found significantly decline in salivary **sialic acid** level and SOD activity. The decrease of salivary **sialic acid** level in type 1 diabetes may be due to changes in the activities of the enzymes taking part of in the synthesis and catabolism of **sialic acid**. The main reason for the decrease of salivary SOD activity may be increased glycation of the enzyme and/or deleterious effect of increased free oxygen radicals by glycated proteins on SOD activity in diabetes. We conclude the decline both in **sialic acid** and SOD in saliva may be a possible factor leading to oral complications of diabetes mellitus.
CC Biochemical Studies - General *10060
Biochemical Studies - Carbohydrates *10068
Metabolism - General Metabolism; Metabolic Pathways *13002
Metabolism - Metabolic Disorders *13020
Endocrine System - Pancreas *17008
Dental and Oral Biology - Physiology and Biochemistry *19004
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
BC Hominidae 86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Metabolism
IT Parts, Structures, & Systems of Organisms
saliva: dental and oral system
IT Diseases
type 1 diabetes mellitus: endocrine disease/pancreas, immune system disease, metabolic disease
IT Chemicals & Biochemicals
copper-zinc superoxide dismutase: activity; **sialic acid**: evaluation, salivary
IT Alternate Indexing
Diabetes Mellitus, Insulin-Dependent (MeSH)
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

```
> d his

     (FILE 'HOME' ENTERED AT 15:00:57 ON 24 AUG 2003)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
     15:01:14 ON 24 AUG 2003
L1           317 S MUC7? AND MUCIN
L2             0 S L1 AND SLAIVA?
L3           140 S L1 AND SALIVA?
L4            22 S L3 AND DISEASE
L5             3 S L4 AND (SIALIC ACID)
L6             1 DUPLICATE REMOVE L5 (2 DUPLICATES REMOVED)
L7             1 S L1 AND (DENTAL CARIES)
L8             0 S L1 AND DFT?
L9             1 S L1 AND DMF?
L10            0 S L1 AND DMFS?

=>
```

L7 ANSWER 1 OF 1 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI Salivary **mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (**MUC7**), predominant **mucins** in human whole saliva, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole saliva flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole saliva, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
*Saliva: MI, microbiology
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
*Salivary Proteins: PH, physiology
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (Salivary Proteins); 0 (human salivary **mucin** MG2)

=>

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1

AN 2001:870555 CAPLUS

DN 137:61546

TI Altered sialyl- and fucosyl-linkage on **mucins** in cystic fibrosis patients promotes formation of the sialyl-Lewis X determinant on **salivary** MUC-5B and MUC-7

AU Shori, D. K.; Genter, T.; Hansen, J.; Koch, C.; Wyatt, H.; Kariyawasam, H. H.; Knight, R. A.; Hodson, M. E.; Kalogeridis, A.; Tsanakas, I.

CS Dept. of Oral Pathology, King's College London, Rayne Institute, SE5 9NU, UK

SO Pfluegers Archiv (2001), 443(Suppl. 1), S55-S61
CODEN: PFLABK; ISSN: 0031-6768

PB Springer-Verlag

DT Journal

LA English

CC 14-14 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 15

AB Destruction of the lungs as a consequence of recurrent infections with microorganisms such as Pseudomonas aeruginosa remains the underlying cause of most morbidity and mortality in cystic fibrosis (CF). We have hypothesized that changes in the glycosylation of key tracheal **mucins** such as MUC5B and **MUC7** might increase the risk of pulmonary **disease** in CF patients. However, in preference to sputum we have examd. the sugar-chains on these **mucins** in **saliva** because in the latter not only can the glycoproteins be collected from controls, but they are essentially free from modifications made following bacterial infection in **disease**. Proteins in ductal or whole-mouth **saliva** from 20 CF patients with the .DELTA.F-508 CFTR mutation and age-and sex-matched controls were sepd. by SDS-PAGE and blotted onto nitrocellulose and then probed with labeled lectins of known specificity. Linkage of terminal **sialic acid** on the blotted **mucins** was detd. using Sambucus nigra agglutinin (detects the 2.fwdarw.6 linkage) and Maackia amurensis agglutinin (the 2.fwdarw.3 linkage). Fucose was detected by Ulex europaeus agglutinin-1 (1-2 linkage) and Aleuria aurantia agglutinin (1.fwdarw.3 linkage). We found that each **mucin** shows a characteristic glycosylation pattern and in controls most of the **sialic acid** is 2.fwdarw.6 linked on MG1 (MUC 5B) and 2.fwdarw.3 linked on MG2 (MUC 7). CF is assocd. with a shift from a 2.fwdarw.6 linkage to a 2.fwdarw.3 linkage on MG1 with some patients showing almost no 2.fwdarw.6 linkage; 2.fwdarw.3 linkage on MG2 is similarly increased in **disease** in some individuals. The expression of fucose on these **mucins** is also raised in CF patients. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These changes will be tested for their correlation with the severity of lung **disease**.

ST sialyl fucosyl linkage cystic fibrosis; CFTR gene mutation MG1 MG2 **mucin** sialylLewisX complex

IT **Sialic acids**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(2.fwdarw.6 linkage and 2.fwdarw.3 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins** -induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Cystic fibrosis
Human

Mutation
Risk assessment
Saliva
Salivary gland
Trachea (anatomical)
(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT CFTR (cystic fibrosis transmembrane conductance regulator)
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(CFTR; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Blood-group substances
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(Lex, sialyl, complex; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(MG1; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(MG2; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Galactosylation
(fucosylation; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(sialomucin; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT 2438-80-4, L-Fucose
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.-2.fwdarw.6 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Barasch, J; J Cell Sci Suppl 1993, V17, P229 MEDLINE
(2) Barasch, J; Nature 1991, V352, P70 CAPLUS
(3) Cacalano, G; J Clin Invest 1992, V89, P1866 CAPLUS
(4) Carnoy, C; Am J Respir Cell Mol Biol 1993, V9, P323 CAPLUS
(5) Devor, D; J Gen Physiol 1999, V113, P743 CAPLUS
(6) Forstner, G; Annu Rev Physiol 1995, V57, P585 CAPLUS

(7) Garrett, J; Arch Oral Biol 1991, V36, P675 MEDLINE
(8) Garrett, J; Cell Tissue Res 1991, V264, P117 MEDLINE
(9) Iontcheva, I; J Dent Res 1997, V76, P734 CAPLUS
(10) Jiang, C; J Physiol (Lond) 1997, V501, P637 CAPLUS
(11) Joris, L; Am Rev Respir Dis 1993, V148, P1633 MEDLINE
(12) Kerem, E; Pediatr Pulmonol 1996, V22, P387 MEDLINE
(13) King, A; J Clin Pathol 1990, V43, P1019 MEDLINE
(14) Koch, C; Respiration 2000, V67, P239 MEDLINE
(15) Lenaerts, C; Pediatr Pulmonol Suppl 1997, V16, P233 MEDLINE
(16) Lo-Guidice, J; J Biol Chem 1994, V269, P18794 CAPLUS
(17) Mehrotra, R; Biochem J 1998, V334, P415 CAPLUS
(18) Nelson, S; Infect Dis Clin North Am 1998, V12, P555 MEDLINE
(19) Nielsen, P; Glycobiology 1997, V7, P413 CAPLUS
(20) Nielsen, P; J Dent Res 1996, V75, P1820 CAPLUS
(21) Ramphal, R; Biochem Soc Trans 1999, V27, P474 CAPLUS
(22) Reddy, M; Crit Rev Oral Biol Med 1993, V4, P315 MEDLINE
(23) Sharma, P; Am J Respir Cell Mol Biol 1998, V19, P30 CAPLUS
(24) Shori, D; Pflugers Archiv, 10.1007/s004240100644 2001 CAPLUS
(25) Super, M; Br Med Bull 1992, V48, P717 MEDLINE
(26) Thiru, S; J Clin Pathol 1990, V43, P1014 MEDLINE
(27) Thornton, D; Glycobiology 1999, V9, P293 CAPLUS
(28) Zhang, X; Glycoconjugate J 1996, V13, P91 CAPLUS
(29) Zielenski, J; Respiration 2000, V67, P117 MEDLINE

=>

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
AN 2001:870555 CAPLUS
DN 137:61546
TI Altered sialyl- and fucosyl-linkage on **mucins** in cystic fibrosis patients promotes formation of the sialyl-Lewis X determinant on **salivary** MUC-5B and MUC-7
AU Shori, D. K.; Genter, T.; Hansen, J.; Koch, C.; Wyatt, H.; Kariyawasam, H. H.; Knight, R. A.; Hodson, M. E.; Kalogeridis, A.; Tsanakas, I.
CS Dept. of Oral Pathology, King's College London, Rayne Institute, SE5 9NU, UK
SO Pfluegers Archiv (2001), 443(Suppl. 1), S55-S61
CODEN: PFLABK; ISSN: 0031-6768
PB Springer-Verlag
DT Journal
LA English
CC 14-14 (Mammalian Pathological Biochemistry)
Section cross-reference(s): 15
AB Destruction of the lungs as a consequence of recurrent infections with microorganisms such as Pseudomonas aeruginosa remains the underlying cause of most morbidity and mortality in cystic fibrosis (CF). We have hypothesized that changes in the glycosylation of key tracheal **mucins** such as MUC5B and **MUC7** might increase the risk of pulmonary **disease** in CF patients. However, in preference to sputum we have examd. the sugar-chains on these **mucins** in **saliva** because in the latter not only can the glycoproteins be collected from controls, but they are essentially free from modifications made following bacterial infection in **disease**. Proteins in ductal or whole-mouth **saliva** from 20 CF patients with the .DELTA.F-508 CFTR mutation and age-and sex-matched controls were sepd. by SDS-PAGE and blotted onto nitrocellulose and then probed with labeled lectins of known specificity. Linkage of terminal **sialic acid** on the blotted **mucins** was detd. using Sambucus nigra agglutinin (detects the 2.fwdarw.6 linkage) and Maackia amurensis agglutinin (the 2.fwdarw.3 linkage). Fucose was detected by Ulex europaeus agglutinin-1 (1-2 linkage) and Aleuria aurantia agglutinin (1.fwdarw.3 linkage). We found that each **mucin** shows a characteristic glycosylation pattern and in controls most of the **sialic acid** is 2.fwdarw.6 linked on MG1 (MUC 5B) and 2.fwdarw.3 linked on MG2 (MUC 7). CF is assocd. with a shift from a 2.fwdarw.6 linkage to a 2.fwdarw.3 linkage on MG1 with some patients showing almost no 2.fwdarw.6 linkage; 2.fwdarw.3 linkage on MG2 is similarly increased in **disease** in some individuals. The expression of fucose on these **mucins** is also raised in CF patients. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These changes will be tested for their correlation with the severity of lung **disease**.
ST sialyl fucosyl linkage cystic fibrosis; CFTR gene mutation MG1 MG2 **mucin** sialylLewisX complex
IT **Sialic acids**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(2.fwdarw.6 linkage and 2.fwdarw.3 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins** -induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)
IT Cystic fibrosis
Human

Mutation
Risk assessment
Saliva
Salivary gland
Trachea (anatomical)
(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT CFTR (cystic fibrosis transmembrane conductance regulator)
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(CFTR; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Blood-group substances
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(Lex, sialyl, complex; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(MG1; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(MG2; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Galactosylation
(fucosylation; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(sialomucin; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT 2438-80-4, L-Fucose
RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
(.alpha.-2.fwdarw.6 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Barasch, J; J Cell Sci Suppl 1993, V17, P229 MEDLINE
(2) Barasch, J; Nature 1991, V352, P70 CAPLUS
(3) Cacalano, G; J Clin Invest 1992, V89, P1866 CAPLUS
(4) Carnoy, C; Am J Respir Cell Mol Biol 1993, V9, P323 CAPLUS
(5) Devor, D; J Gen Physiol 1999, V113, P743 CAPLUS
(6) Forstner, G; Annu Rev Physiol 1995, V57, P585 CAPLUS

(7) Garrett, J; Arch Oral Biol 1991, V36, P675 MEDLINE
(8) Garrett, J; Cell Tissue Res 1991, V264, P117 MEDLINE
(9) Iontcheva, I; J Dent Res 1997, V76, P734 CAPLUS
(10) Jiang, C; J Physiol (Lond) 1997, V501, P637 CAPLUS
(11) Joris, L; Am Rev Respir Dis 1993, V148, P1633 MEDLINE
(12) Kerem, E; Pediatr Pulmonol 1996, V22, P387 MEDLINE
(13) King, A; J Clin Pathol 1990, V43, P1019 MEDLINE
(14) Koch, C; Respiration 2000, V67, P239 MEDLINE
(15) Lenaerts, C; Pediatr Pulmonol Suppl 1997, V16, P233 MEDLINE
(16) Lo-Guidice, J; J Biol Chem 1994, V269, P18794 CAPLUS
(17) Mehrotra, R; Biochem J 1998, V334, P415 CAPLUS
(18) Nelson, S; Infect Dis Clin North Am 1998, V12, P555 MEDLINE
(19) Nielsen, P; Glycobiology 1997, V7, P413 CAPLUS
(20) Nielsen, P; J Dent Res 1996, V75, P1820 CAPLUS
(21) Ramphal, R; Biochem Soc Trans 1999, V27, P474 CAPLUS
(22) Reddy, M; Crit Rev Oral Biol Med 1993, V4, P315 MEDLINE
(23) Sharma, P; Am J Respir Cell Mol Biol 1998, V19, P30 CAPLUS
(24) Shori, D; Pflugers Archiv, 10.1007/s004240100644 2001 CAPLUS
(25) Super, M; Br Med Bull 1992, V48, P717 MEDLINE
(26) Thiru, S; J Clin Pathol 1990, V43, P1014 MEDLINE
(27) Thornton, D; Glycobiology 1999, V9, P293 CAPLUS
(28) Zhang, X; Glycoconjugate J 1996, V13, P91 CAPLUS
(29) Zielenski, J; Respiration 2000, V67, P117 MEDLINE

=>

L7 ANSWER 1 OF 1 MEDLINE on STN
AN 2001118194 MEDLINE
DN 21069251 PubMed ID: 11155158
TI Salivary **mucin** as related to oral Streptococcus mutans in elderly people.
AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
NC RO1 DE 06892 (NIDCR)
SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
Journal code: 8707451. ISSN: 0902-0055.
CY Denmark
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Dental Journals
EM 200102
ED Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010215
AB MG1 (MUC5b and MUC4) and MG2 (**MUC7**), predominant **mucins** in human whole saliva, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole saliva flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole saliva, as quantified in **mucin**-dye binding units.
CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Aged
Aged, 80 and over
*Aging: PH, physiology
DMF Index
Dental Care for Aged
Dental Caries: MI, microbiology
Electrophoresis, Polyacrylamide Gel
Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
Risk Assessment
*Saliva: MI, microbiology
Saliva: PH, physiology
Saliva: SE, secretion
Salivary Proteins: AN, analysis
*Salivary Proteins: PH, physiology
*Streptococcus mutans: IP, isolation & purification
CN 0 (MG1 protein); 0 (**Mucins**); 0 (Salivary Proteins); 0 (human salivary **mucin** MG2)

=>

```
> d his

     (FILE 'HOME' ENTERED AT 15:00:57 ON 24 AUG 2003)

     FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
     15:01:14 ON 24 AUG 2003
L1           317 S MUC7? AND MUCIN
L2             0 S L1 AND SLAIVA?
L3           140 S L1 AND SALIVA?
L4            22 S L3 AND DISEASE
L5             3 S L4 AND (SIALIC ACID)
L6             1 DUPLICATE REMOVE L5 (2 DUPLICATES REMOVED)
L7             1 S L1 AND (DENTAL CARIES)
L8             0 S L1 AND DFT?
L9             1 S L1 AND DMF?
L10            0 S L1 AND DMFS?

=>
```

L4 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1997:107536 BIOSIS
DN PREV199799406739
TI Differential expression of human high-molecular-weight salivary **mucin** (MG1) and low-molecular-weight salivary **mucin** (MG2.
AU Nielsen, P. A. (1); Mandel, U.; Therkildsen, M. H.; Clausen, H.
CS (1) Dep. Oral Diagn., Fac. Health Sci., Sch. Dent., Univ. Copenhagen, Norre Alle 20, 2200 Copenhagen N Denmark
SO Journal of Dental Research, (1996) Vol. 75, No. 11, pp. 1820-1826. ISSN: 0022-0345.
DT Article
LA English
AB Two distinct **mucin** components of **saliva**, MG1 and MG2, have been identified based on chemical composition and molecular weights (high and low, respectively) in **saliva**. With the aim of characterizing the expression pattern of salivary **mucins**, we have prepared monoclonal antibodies MAbs) directed against the peptide core of MG1 and against a synthetic peptide derived from the MG2 (**MUC7**) sequence. MAb PANH2 raised against partially deglycosylated MG1 stained a high-molecular-weight smear in Western blots of partially purified MG1. PANH2 binding was increased by deglycosylation with trifluoromethanesulfonic acid as well as with subsequent periodate treatment, and was eliminated by pronase treatment, strongly suggesting that MAb PANH2 was directed to a peptide epitope of MG1. MAb PANH3 raised against a synthetic peptide derived from the MG2 (**MUC7**) sequence reacted with the native molecule and stained a narrow smear of ca. 200,000 to 210,000 in Western blots of concentrated **saliva** and a lower-molecular-weight smear of trifluoromethanesulfonic-acid-treated MG2. Immunohistology on frozen sections of human salivary glands showed that MAb PANH2 selectively labeled mucous cells, whereas MAb PANH3 labeled subpopulations of serous cells. Double-direct immunofluorescence staining with PANH2 and PANH3 demonstrated that the staining patterns were non-overlapping. The development of these antibody probes will facilitate studies of **mucin** expression in **diseases** of salivary glands.
CC Microscopy Techniques - Histology and Histochemistry 01056
Biochemical Methods - Proteins, Peptides and Amino Acids 10054
Biochemical Methods - Carbohydrates 10058
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Biophysics - Molecular Properties and Macromolecules *10506
Metabolism - Carbohydrates *13004
Metabolism - Proteins, Peptides and Amino Acids *13012
Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids *15010
Dental and Oral Biology - Physiology and Biochemistry *19004
Temperature: Its Measurement, Effects and Regulation - Cryobiology 23004
Immunology and Immunochemistry - General; Methods *34502
BC Hominidae *86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Dental and Oral System (Ingestion and Assimilation); Metabolism; Physiology
IT Miscellaneous Descriptors
ANALYTICAL METHOD; DIFFERENTIAL EXPRESSION; DOUBLE-DIRECT IMMUNOFLUORESCENCE STAINING; HIGH-MOLECULAR WEIGHT SALIVARY **MUCIN**; LOW-MOLECULAR WEIGHT SALIVARY **MUCIN**; MG1 **MUCIN**; MG2 **MUCIN**; ORAL SYSTEM
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)

ORGN Organism Superterms

animals; chordates; humans; mammals; primates; vertebrates

L4 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 5
AN 1997:107536 BIOSIS
DN PREV199799406739
TI Differential expression of human high-molecular-weight salivary **mucin** (MG1) and low-molecular-weight salivary **mucin** (MG2.
AU Nielsen, P. A. (1); Mandel, U.; Therkildsen, M. H.; Clausen, H.
CS (1) Dep. Oral Diagn., Fac. Health Sci., Sch. Dent., Univ. Copenhagen, Norre Alle 20, 2200 Copenhagen N Denmark
SO Journal of Dental Research, (1996) Vol. 75, No. 11, pp. 1820-1826. ISSN: 0022-0345.
DT Article
LA English
AB Two distinct **mucin** components of **saliva**, MG1 and MG2, have been identified based on chemical composition and molecular weights (high and low, respectively) in **saliva**. With the aim of characterizing the expression pattern of salivary **mucins**, we have prepared monoclonal antibodies MAbs) directed against the peptide core of MG1 and against a synthetic peptide derived from the MG2 (**MUC7**) sequence. MAb PANH2 raised against partially deglycosylated MG1 stained a high-molecular-weight smear in Western blots of partially purified MG1. PANH2 binding was increased by deglycosylation with trifluoromethanesulfonic acid as well as with subsequent periodate treatment, and was eliminated by pronase treatment, strongly suggesting that MAb PANH2 was directed to a peptide epitope of MG1. MAb PANH3 raised against a synthetic peptide derived from the MG2 (**MUC7**) sequence reacted with the native molecule and stained a narrow smear of ca. 200,000 to 210,000 in Western blots of concentrated **saliva** and a lower-molecular-weight smear of trifluoromethanesulfonic-acid-treated MG2. Immunohistology on frozen sections of human salivary glands showed that MAb PANH2 selectively labeled mucous cells, whereas MAb PANH3 labeled subpopulations of serous cells. Double-direct immunofluorescence staining with PANH2 and PANH3 demonstrated that the staining patterns were non-overlapping. The development of these antibody probes will facilitate studies of **mucin** expression in **diseases** of salivary glands.
CC Microscopy Techniques - Histology and Histochemistry 01056
Biochemical Methods - Proteins, Peptides and Amino Acids 10054
Biochemical Methods - Carbohydrates 10058
Biochemical Studies - Proteins, Peptides and Amino Acids 10064
Biochemical Studies - Carbohydrates 10068
Biophysics - Molecular Properties and Macromolecules *10506
Metabolism - Carbohydrates *13004
Metabolism - Proteins, Peptides and Amino Acids *13012
Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids *15010
Dental and Oral Biology - Physiology and Biochemistry *19004
Temperature: Its Measurement, Effects and Regulation - Cryobiology 23004
Immunology and Immunochemistry - General; Methods *34502
BC Hominidae *86215
IT Major Concepts
Biochemistry and Molecular Biophysics; Dental and Oral System (Ingestion and Assimilation); Metabolism; Physiology
IT Miscellaneous Descriptors
ANALYTICAL METHOD; DIFFERENTIAL EXPRESSION; DOUBLE-DIRECT IMMUNOFLUORESCENCE STAINING; HIGH-MOLECULAR WEIGHT SALIVARY **MUCIN**; LOW-MOLECULAR WEIGHT SALIVARY **MUCIN**; MG1 **MUCIN**; MG2 **MUCIN**; ORAL SYSTEM
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)

ORGN Organism Superterms

animals; chordates; humans; mammals; primates; vertebrates

L4 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
DUPLICATE 3
AN 2001:290574 BIOSIS
DN PREV200100290574
TI Genetic polymorphism of **MUC7**: Allele frequencies and association with asthma.
AU Kirkbride, Helen J.; Bolscher, Jan G.; Nazmi, Kamran; Vinall, Lynne E.; Nash, Matthew W.; Moss, Fiona M.; Mitchell, David M.; Swallow, Dallas M. (1)
CS (1) Galton Lab, University College London, 4 Stephenson Way, London, NW1 2HE: dswallow@hgmp.mrc.ac.uk UK
SO European Journal of Human Genetics, (May, 2001) Vol. 9, No. 5, pp. 347-354. print.
ISSN: 1018-4813.
DT Article
LA English
SL English
AB **MUC7** encodes a small salivary **mucin**, previously called MG2, a glycoprotein with a putative role in facilitating the clearance of oral bacteria. The central domain of this glycoprotein was previously shown to comprise five or six tandemly repeated units of 23 amino-acids which carry most of the O-linked glycans. The polymorphism of these two allelic forms (**MUC7***5 or **MUC7***6) has been confirmed in this study in which we have analysed a large cohort of subjects (n=375) of various ethnic origins. We have also identified a novel rare allele with eight tandem repeats (**MUC7***8). **MUC7***6 was the most common allele (0.78-0.95) in all the populations tested. The tandem repeat arrays of 22 **MUC7***5 alleles and 34 **MUC7***6 alleles were sequenced. No sequence differences were detected in any of the **MUC7***6 alleles. Twenty-one **MUC7***5 alleles sequenced lacked the 4th tandem repeat (structure TR12356), while one showed the structure TR12127. The structure of the **MUC7***8 allele was TR12343456. Because of the known role of **MUC7** in bacterial binding, and thus its potential involvement in susceptibility to chest **disease** we also tested **MUC7** in our previously described series of Northern European atopic individuals with and without associated asthma. The **MUC7***5 allele was rarer in the atopic asthmatics than in the atopic non-asthmatics (P=0.014, OR for no asthma in atopic individuals 3.13, CI 1.01-6.10), and the difference in frequency between all asthmatics and all non-asthmatics was statistically significant (P=0.009) while there was no difference between atopy and non-atopy (P=0.199). In this study we also report the electrophoretic analysis of the **MUC7** glycoprotein in **saliva** from individuals of different **MUC7** genotype.
CC Allergy *35500
Genetics and Cytogenetics - General *03502
Genetics and Cytogenetics - Human *03508
Biochemical Studies - Proteins, Peptides and Amino Acids *10064
Respiratory System - Pathology *16006
Immunology and Immunochemistry - General; Methods *34502
Immunology and Immunochemistry - Immunopathology, Tissue Immunology *34508
BC Hominidae 86215
IT Major Concepts
Molecular Genetics (Biochemistry and Molecular Biophysics); Immune System (Chemical Coordination and Homeostasis)
IT Diseases
asthma: immune system **disease**, respiratory system **disease**
IT Chemicals & Biochemicals
mucin
IT Alternate Indexing

Asthma (MeSH)
IT Miscellaneous Descriptors
allele frequencies; tandem repeat
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
GEN human MUC-7 gene (Hominidae): polymorphism, small salivary **mucin** gene